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Occultation of Jupiter, January 2, 1857, observed at the Armagh Observatory. By Mr. N. M'Neil Edmondson.

(*Communicated by Dr. Robinson.*)

	h m s
Immersion of 4th Satellite	4 23 56·62
,, 3d ,, ...	4 29 42·18
Contact of Jupiter noticed at	4 35 0·81
Immersion of Jupiter	4 37 6·46
Immersion of 2d Satellite	4 38 23·25

The telescope was a 15-inch Cassegrain, with a power of 260. No change was noticed in the planet. Mr. Edmondson estimated the time of the 4th satellite's entrance to be $0^{\mathrm{s}}\cdot 5$, and that of the 2d to be $0^{\mathrm{s}}\cdot 75$. The dark limb was barely visible.

The Occultation of Jupiter, as observed at Oxford. Communicated by the President.

Immersions and Emersions in Oxford Mean Time.

		Mr. Johnson.	Mr. Pogson.	Mr. Quirling.
		h m s	s	s
Immersion,	4th Sat.	4 39 10·3	15·3	
——	3d Sat.	4 46 39·0	37·7	37·0
——	Jup. I. L.	4 53 36·9 (?)	19·3	
——	Jup. II. L.	4 54 58·1	59·2	57·8
——	1st Sat.	4 55 47·3	46·2	
——	2d Sat.	4 56 58·1	57·7	57·3
Emersion,	4th Sat.	5		
——	3d Sat.	5 42	24·7	
——	Jup. I. L.	5 52 3·9	2·3 (?)	
——	Jup. II. L.	5 53 45·6 (?)	32·1	35·2
——	1st Sat.	5 54	42·4	
——	2d Sat.	5 56 34·7	33·1	

Mr. Johnson observed with the heliometer of 7·5 inches aperture, and power 150: Mr. Pogson, with the equatoreal of 7·2 inches aperture, and power 93; Mr. Quirling, with an achromatic by Dollond, of 3·5 inches aperture, and power 38. The sky was frequently overspread with light clouds, and the moon surrounded by a corona, but not at any time of sufficient importance to interfere with the observations.

Mr. Johnson considers it probable that an error of ten or twenty seconds may have been made in noting the time of first contact by the chronometer, though the phenomenon was accurately remarked. The colour of *Jupiter* on emersion was sea-green. Mr. Johnson also felt conscious that the emersion of the second limb was noted too late.

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Mr. Pogson describes the third satellite as occupying nearly two seconds in fading away. The colour of *Jupiter* was considered dull bluish-white; the belts were always well seen. *Jupiter* was less bright than most part of the moon's surface, but not of so feeble a light as the central part of *Mare Crisium*. The calculated interval of immersion or emersion of the planet at Oxford, was $1^{m}\ 40^{s}\cdot8$.

The following observations were made by Mr. Wm. Luff, at his house, which is situated 26″ south and $1^{s}\cdot3$ east of the Radcliffe Observatory:—

Mean Times at Mr. Luff's house.

Object.	Immersion. h m s	Emersion. h m s
4th Sat.	4 39 12·6	
3d Sat.	4 46 37·8	
Jup. I. L.	......	5 52 5·4
Jup. II. L.	4 54 57·0	5 53 36·0
2d Sat.	4 56 58·6	

The telescope employed had an aperture of 2·6 inches, and power of about 50. The belts were distinctly seen when only one-third of *Jupiter's* diameter had emerged from behind the moon. Mr. Luff also remarked at the same time the comparative dullness of the planet's light in contrast with that of our own satellite.

Occultation of Jupiter, observed at Ventnor.

By Dr. R. J. Mann.

Telescope by Ross, $3\frac{1}{2}$ inches aperture: power 120.

"The condition of the atmosphere was eminently favourable for the observation, the performance of the telescope being excellent, and the definition very sharp throughout, so much so that about an hour after the termination of the occultation the dusky ring of *Saturn* was visible with the same instrument, under a magnifying power of 195, although the planet was still at a low altitude.

"At $4^{h}\ 51^{m}\ 29^{s}$ contact had certainly occurred between *Jupiter's* disk and the moon. The planet then seemed a trifle flat at one part of its margin, as if suddenly compressed there; immediately afterwards a *sharp* black line was perceptible, advancing over the planetary disk, and cutting the belts. The lunar surface was quite invisible, and the effect was just that of a flat black ebony ruler, with an even edge, being pushed gradually forward in front of the planet. The uncovered portion of the planetary disk during the progress of the occultation retained precisely its *usual* appearance, *the belts remaining ordinarily distinct quite up to the moon's edge.* The outline of the moon's limb was affected by a slightly tremulous movement, but no irregularity was otherwise observable in it, until immediately before the completion of the occultation; then for a passing instant two or three isolated light points hung in the field of vision; in another instant, but one remained; in yet

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